

#### **DRV** Energy

- Bought Alternative Fuels Specialist in 1994
- Has grown from 3 employees to 10
- Full service alternative fuels center
- Compressor installation and maintenance
- Slow fill\fast fill stations
- Full line of bi-fuel/dedicated EPA certified conversion kits for CNG and Propane
- Dedicated CNG engines for diesel re-powers

### Will Rogers World Airport





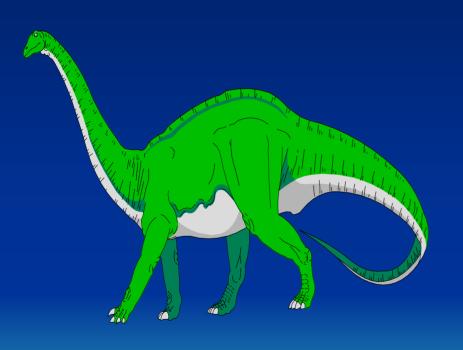


- Have seen many changes in the industry, and have to be flexible and diverse.
- Frustration with lack of product and reliability has driven many of our developments.
- Increased gasoline prices and possible lack of availability makes alternative fuels the smart choice for fleets.





### Conversions today are NOT the dinosaurs of the past!



- They are fast!
- They are powerful!
- They are portsequential injected!
- They have advanced diagnostic capabilities!

## Think You've Seen A CNG Vehicle?

### Think Again!



## DRV'S Dynamometer and Emissions Lab!

- Chassis Dyno rated at 18,000 gvw
- Measures horsepower, rear wheel torque, quarter mile times.
- Emissions equipment with constant volume sampler with emissions bagging capabilities







#### A NEW ANIMAL!!!

 The DRV Kits are the latest in propane/natural gas vehicle technology.
 They feature port sequential fuel injection for more precise control, better running condition and fuel economy.

It mimic's the OEM fuel strategy for optimal performance



- The edi module controls whether the injector is on or off and controls the width of the pulse. It takes into consideration MAP input and O2 input.
- It can control up to 10 gaseous fuel injectors.
- Each injector is controlled by a dedicated 2MIPs processor which communicates with the main 16 bit processor at 16MHz.

### 6.0L Propane Injection System



The electronics read all pertinent control signals from the engine via high-speed ADC and OBDII interface, performing real time processing on selected signals before feeding them on to the OEM computer.

These design considerations allow the EDI to bias the alternative fuel injector pulses with a very high degree of precision, delivering repeatable performance and emission control under the full range of driving conditions.

- The correct fuel trim is maintained in the OEM computer while running on the alternative fuel, while allowing for auto switching between gasoline and the alternative fuel.
- There is a simple dash mounted LCD button on the DRV kit to handle fuel selection, on-the-fly switching between fuels, and alternative fuel level display.
- A communications port is integrated into the LCD display bracket.

- The communications port links the control module to a PC for programming and diagnostics.
- It will also allow us to look at vehicles through our distributors via modem to help diagnose problems should they occur.
- The system contains a locked calibration that has met EPA standards and certification.
- The system has self-learn capabilities and will continue to update it's strategy in conjunction with the OEM computer's adaptive learn features.

#### Advantages

 1. OBD Integrated- standard of 2005 and we are already there.

 2.Potential to convert all makes of vehicles.

 3. The Engines- More feedback on every aspect of our fuel system.

### Advantages

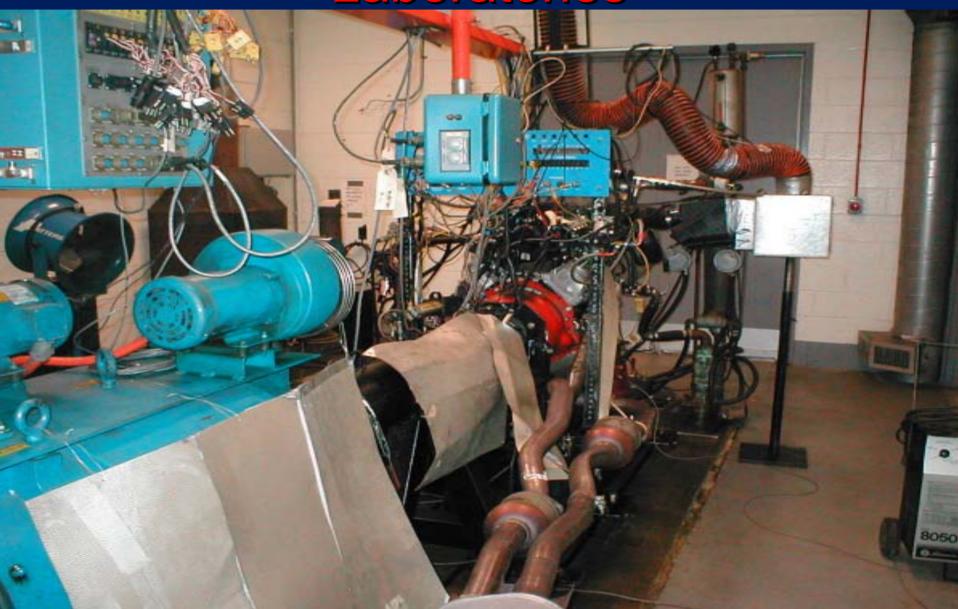
 4. The electronic control module has self learning capabilities.

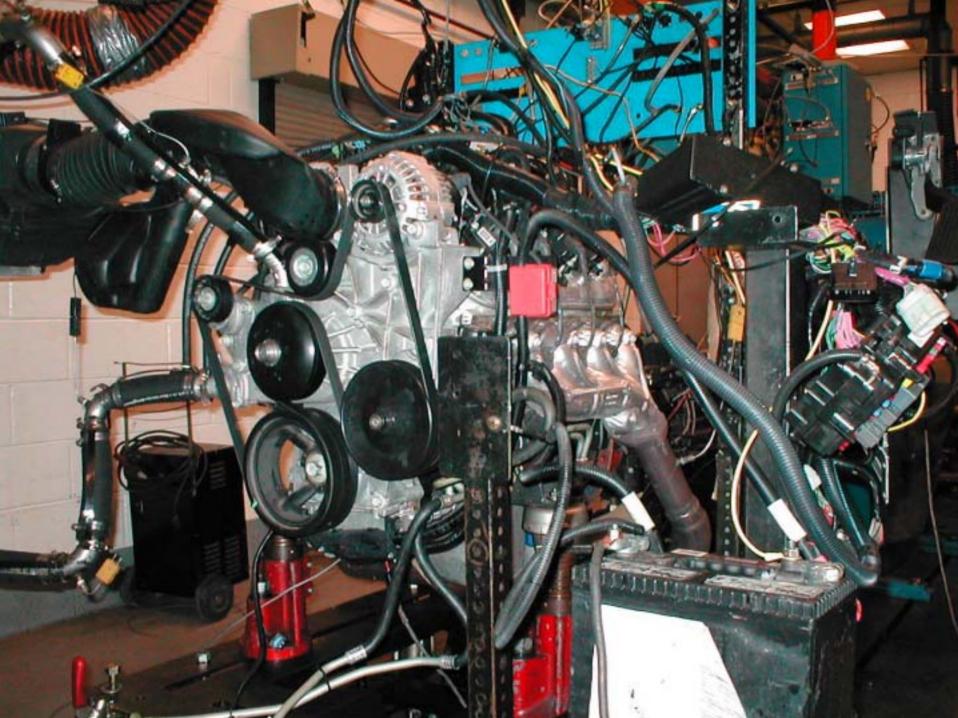
 5. Graphing Capabilities-RPM, TPS, O2, ECT, Injector factors, Reg. pressure & others.

6. Snapshot and Long-Term Recording



### 6.0 On Engine Dyno At Roush Laboratories









### Certified Kits Available <u>NOW</u> For Many Vehicle Platforms











#### **EPA Certified CNG and Propane Kits Available NOW!**

Models available for the 4.3 Liter Platform

Chevy Blazer Chevy S-10 P/U

2WD & 4WD 2WD & 4WD

GMC Jimmy GMC Sonoma

2WD & 4WD 2WD & 4WD

**Chevy Astro Cargo Van** 

Chevy Astro Cargo Conversion

**Chevy Astro Passenger** 

**GMC Safari Cargo Conversion** 

GMC Safari Passenger

Models available for the 5.3 Liter Platform

Chevy C-1500 Silverado

**2WD & 4WD** 

GMC K-1500 Sierra

2WD & 4WD

Models available for the 6.0 Liter Engine Families

Silverado and Sierra

Suburban and Yukon

Chevy Van and Express

Savanna Cargo and Passenger Van

Flat Bed, Workhorse Step Van

**Utility and Box Van** 

Up to 14,000 GVW

### Expanding Choices Propane & CNG

- GM 8.1 Liter Engine
- Adaptation for use in:

**National Parks** 

Airport shuttles

Low Floor Shuttle Transit

FORD Platforms
 5.4 Liter Engine

### FORD 6.8L Heavy Duty CNG





# "THE FLAT PROPANE TANK THAT FITS"

## CONFORMABLE PROPANE TANKS WITH VERSATILE MODULAR CELL TECHNOLOGY

\*REDUCED TANK WEIGHT

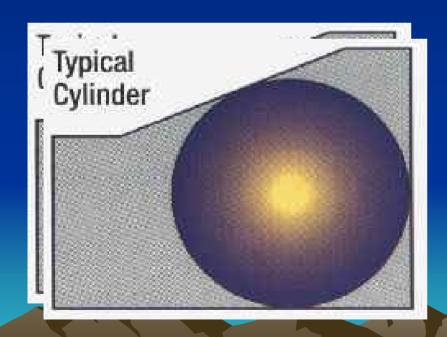
\*30%-50% ADDITIONAL STORAGE

\*RANGE OF HEIGHTS AND WIDTHS

\*DEVELOPED THROUGH THE SPACE PROGRAM

\*\*\*ATK Thiokol Propulsion\*\*\*Propane Performance Ind.\*\*\*
For More Information: Contact DRV ENERGY, Inc.
405-670-9099

### Space-Saving Propane Tanks





### Increased Volume & range

Conventional Round Tanks v FPT

64 litres

892mm long 72 litres

533mm wide

100 litres

892mm wide

360mm diam.

228mm high

228mm high



- SHERI VANHOOSER
  - DRV Energy, Inc.
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